G65 - GAS METAL ARC WELDING (GMAW), ERNiCu, Section 12.19 Table 12.19-1 of AP-42 (1/95)

CALCULATION METHODS (for Trace Metals with listed AP-42 emission factors)

Ea = Ua x EF (lbs/lb rod)

Eh = Uh x EF (lbs/lb rod)

CALCULATION METHODS (for Trace Metals without listed AP-42 emission factors)

Ea = Ua x EF (Fume generation rate lbs fume/lb rod x NASSCO Fume Correction Factor) x Ci

Eh = Uh x EF (Fume generation rate lbs fume/lb rod x NASSCO Fume Correction Factor) x Ci

NOTES:

- All emissions are assumed uncontrolled. Control efficiencies must be included in the release point information if applicable.

- Trace metals with specified emission factors listed by the EPA in AP-42 are quantified accordingly.

- Trace metals which are components of the welding rod but not identified by EPA will be quantified by the District's default procedures.

- Default fume generation rates (lbs fume/lb rod) are; 0.01 (GMAW, TIG, & MIG), 0.02 (SMAW & FCAW), and 0.05 (unspecified).

- Default Fume Correction Factors from NASSCO (Dr. Bell) are 0.5464 (GMAW, TIG, & MIG), 0.2865 (SMAW & FCAW), and 1.0 (unspecified).

- Default hexavalent chromium conversion rates from ARB analysis of AWS data are; 0.05 (GMAW, TIG, & MIG), 0.63 (SMAW & FCAW), and 0.10 (unspecified).

- Trace metal EPA emission factors for specific rods are from Tables 12.19-1 & 12.19-2 (1/95) of AP-42.

POLLUTANT	District Emission Factor (lbs/lb rod)	EPA REFERENCE DOCUMENT	EPA FACTOR	(UNITS)	COMMENTS
NOX					
CO					
SOX					
TOG					
ROG					
TSP	2.00E-03				ASSUME PM10 = TSP
PM10	2.00E-03	Table 12.19-1 (1/95) AP-42	2.00	lb/1000 lbs rod	ASSUME PM10 EMISSION RATE = FUME GENERATION RATE (FGR)
Chromium, Nonhexavalent	= 1.04E-03 x Ci	District / ARB / NASSCO Procedure	ND	0.1 lb/1000 lbs rod	EMISSIONS = Ua x FGR x 0.5464 x Ci x (1 - 0.05)
Chromium, Hexavalent	= 5.46E-05 x Ci	District / ARB / NASSCO Procedure	ND		EMISSIONS = Ua x FGR x 0.5464 x Ci x 0.05
Cobalt	= 1.09E-03 x Ci	District / ARB / NASSCO Procedure	ND		EMISSIONS = Ua x FGR x 0.5464 x Ci
Manganese	2.20E-05	Table 12.19-2 (1/95) AP-42	0.22		
Nickel	4.51E-04	Table 12.19-2 (1/95) AP-42	4.51		
Lead	= 1.09E-03 x Ci	District / ARB / NASSCO Procedure	ND		EMISSIONS = Ua x FGR x 0.5464 x Ci
Metals w/o Emission Factors	= 1.09E-03 x Ci	District / ARB / NASSCO procedure	ND		EMISSIONS = Ua x FGR x 0.5464 x Ci

Default Electrode Composition	Weight %	Reference

Aluminum			
Chromium, Total			
Cobalt			
Copper	5.00%	Based on rod description	
Lead			
Manganese	0.50%	Best Estimate (See AP-42 test data)	
Nickel	10.00%	Based on rod description	
Zinc			

Last Updated on 8/26/99
By D. Byrnes